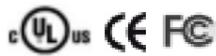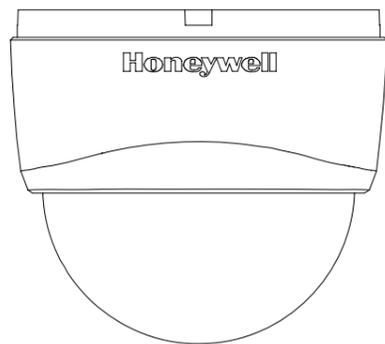# 3 Inch Dome Camera
HD3VC4SHR/HD3VC4SA/HD3VC4SHRX/HD3VC4SAX

Quick Install Guide

Document 900.0824 - 09/06 - Rev 1.01

Warnings, Operating Notes

Installation and servicing should be performed only by qualified and experienced technicians to conform to all local codes and to maintain your warranty.

WARNING! The use of CSA Certified/UL Listed Class 2 power adapters is required to ensure compliance with electrical safety standards.

WARNING! To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

WEEE (Waste Electrical and Electronic Equipment). Correct disposal of this product (applicable in the European Union and other European countries with separate collection systems). This product should be disposed of, at the end of its useful life, as per applicable local laws, regulations, and procedures.

⚠	**CAUTION** RISK OF ELECTRIC SHOCK	⚠	THIS SYMBOL INDICATES THAT DANGEROUS VOLTAGE CONSTITUTING A RISK OF ELECTRIC SHOCK IS PRESENT WITHIN THE UNIT.
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL		⚠	THIS SYMBOL INDICATES THAT IMPORTANT OPERATING AND MAINTENANCE INSTRUCTIONS ACCOMPANY THIS UNIT.

FCC Compliance Statement

Information to the User: This equipment has been tested and found to comply with the limits for a Class A digital device. Pursuant to Part 15 of the FCC Rules, these limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution   Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This Class A digital apparatus complies with Canadian ICES-003.

Manufacturer's Declaration of Conformance

The manufacturer declares that the equipment supplied with this guide is compliant with the essential protection requirements of the EMC directive 89/336/EEC and the Low Voltage Directive LVD 73/23 EEC, conforming to the requirements of standards EN 55022 for emissions.

Operating Notes

Power Supply

This dome camera can operate on 24 VAC or 12 VDC.

Operating Conditions

- Avoid viewing very bright objects (example, light fixtures) for extended periods.
- Avoid operating or storing the unit in the following locations:
  - Extremely humid, dusty, hot/cold environments (where the operating temperature is outside the recommended range of 14°F to 122°F [-10°C to +50°C])
  - Close to sources of powerful electromagnetic radiation, such as radio or TV transmitters
  - Close to fluorescent lamps or objects reflecting light
  - Under unstable light sources (may cause flickering)

Introduction

The unobtrusive, compact design of the HD3VC4S Series 3 Inch Dome Camera is ideal for indoor installations in commercial and residential environments.

Before You Begin

> Please read this guide carefully before you install the HD3VC4S Series 3 Inch Dome Camera. Keep this guide for future reference.

Unpack Everything

Check that the items received match those listed on the order form and packing slip. The HD3VC4S Series Camera packing box should include, in addition to this Install Guide:
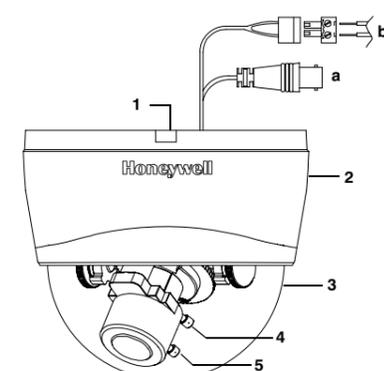- One fully assembled camera
- One hardware kit
- One 2nd video monitor output cable
- One mounting template

If any parts are missing or damaged, contact the dealer you purchased the camera from or call Honeywell Customer Service.

Installation

The HD3VC4S Series is a fully-integrated enclosure with camera and lens.

Figure 1   Camera Parts
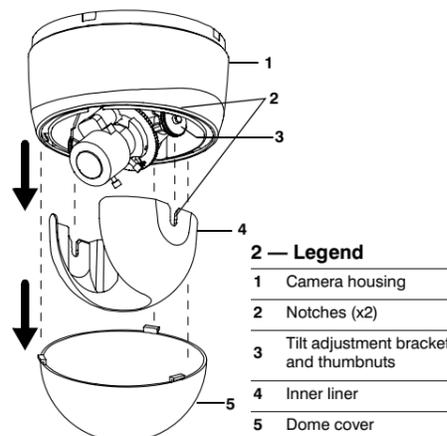

1 — Legend

1	Conduit hole used for surface run power/video connector
2	Camera housing
3	Dome cover
4	Zoom lever
5	Focus lever
a	Video output connector
b	24 VAC/12 VDC power input connector (red +, black -)

Note   See *Figure 5* for an explanation of the camera board settings.

Removing the Dome Cover

1. Gently turn the dome cover (**#5** on *Figure 2*) counter-clockwise to unlock and pull free of the housing.
2. Remove the inner liner (**#4**) by gently pulling it free of the two notches (**#2**) in the housing (**#1**).
3. Set the dome (and liner) aside.

Figure 2   Dome Cover Removal

2 — Legend

1	Camera housing
2	Notches (x2)
3	Tilt adjustment bracket and thumbnuts
4	Inner liner
5	Dome cover

Connecting the Wiring

Follow *Figure 1* to connect the video output connector (**a**) and 24 VAC/12 VDC power connector (**b**).
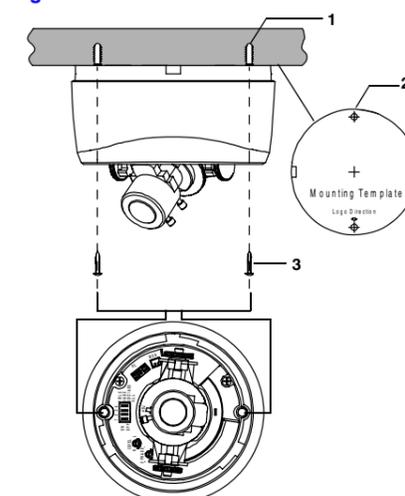
Caution   For DC power supply use, make sure the polarity is correct to avoid malfunction and/or camera damage.

Mounting the Camera

1. Place the mounting template (supplied) on the mounting surface and mark the holes (see *Figure 3*).
2. Drill two holes, then insert the screw anchors into the holes.
3. Secure the camera housing to the wall/ceiling with the TP4 x 15 mm tapping screws supplied.

Note   Depending on the material of your mounting surface, you may require different screws and anchors than those supplied.

Figure 3   Camera Installation

3 — Legend

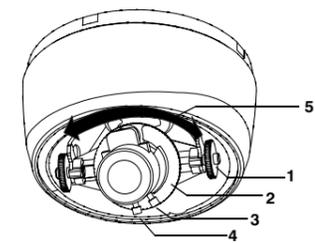| 1	Screw anchors (x2), supplied
2	Mounting template
3	TP4 x 15 mm tapping screws (x2) supplied

Adjusting the Camera Position

The HD3VC4S Series camera has three axes for positioning the camera. While monitoring the picture on the monitor, adjust the camera position as follows:

Horizontal Adjustment   Rotate the 3D assembly in the base. Do not turn the assembly more than 360° as this may cause the internal cables to twist and disconnect or break.

Vertical Adjustment   After loosening the thumbnuts, position the camera as desired, then finger-tighten the thumbnuts to set the position.

Horizontal Rotation For Wall Mount and Tilted Ceilings   Rotate the lens base (maximum 360°) until you are satisfied with the field of view.

Figure 4   Camera Adjustment

4 — Legend

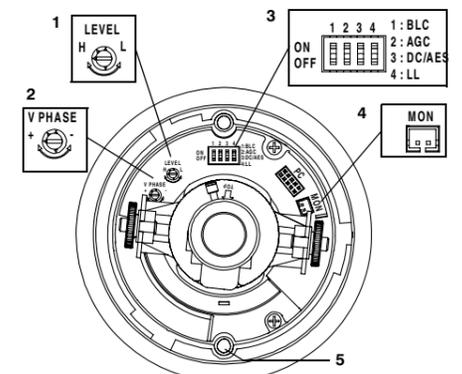| 1	Tilt adjustment bracket and thumbnuts (x2) for vertical adjustment
2	Axis ring for horizontal rotation for wall mount and tilted ceilings
3	Zoom lever
4	Focus lever
5	Rotate 3D assembly in base for horizontal adjustment

Adjusting the Lens

1. Loosen the Zoom lever (**#3**) counter-clockwise a little, then rotate the Zoom lever and determine the image view.
2. Loosen the Focus lever (**#4**) counter-clockwise a little, then adjust the focus for optimum picture sharpness.
3. Re-tighten the Zoom lever and Focus lever after adjustment.

Note   It is important that you lock the zoom and focus levers after making adjustments. This will avoid the positions moving (for example, from temperature changes or vibrations).

Optional Camera Settings

See *Figure 5* for location on the camera board of the camera adjustment functions described below.

Figure 5   Camera Adjustment Functions

5 — Legend

1	LEVEL adjustment pot (Iris level)
2	V Phase adjustment pot (24 VAC only)
3	Mode setting DIP switches
4	Monitor out
5	Camera mounting holes

Note   Please use the supplied DC Iris and Line lock adjustment tool to adjust picture brightness and phase adjustment.

Picture Brightness   Use the LEVEL screw (**#1**) to compensate for the iris level. **L** (low) makes the picture darker. **H** (high) makes the picture brighter.

Phase Adjustment   Use the V Phase Adjustment Pot (**#2**) to adjust the phase difference between cameras. Make sure Switch 4 is ON to activate the Line lock function (AC operation only).
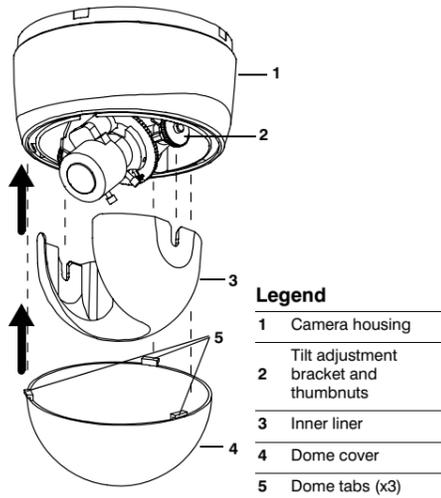
DIP Switches   Set the DIP switches (**#3**) to activate or deactivate the following functions:

Switch	Description
1	**BLC** (Backlight Compensation). Set to **ON** to have the camera adjust the exposure to compensate for situations where the subject is lit from behind. The factory default setting is OFF.
2	**AGC** (Automatic Gain Control). Set to **ON** (default) to have the camera adjust the picture for low light conditions.
3	**DC/AES** Mode. **Leave in ON position only**.
4	**LL** (Line Lock). Set the camera synchronization to internal or line lock (line lock is only available with 24 VAC). The factory default setting is OFF.

Attaching the Dome Cover

To attach the dome cover, follow *Figure 2*:

1. Use a soft, lint-free cloth to wipe the dome cover clean and remove fingerprints.
2. Attach the inner liner (**#3**) to the Tilt adjustment thumbnuts (**#2**). Push down until it clicks into place.
3. Place the dome (**#4**) on the unit. Make sure all three dome tabs (**#5**) are inside the housing opening.
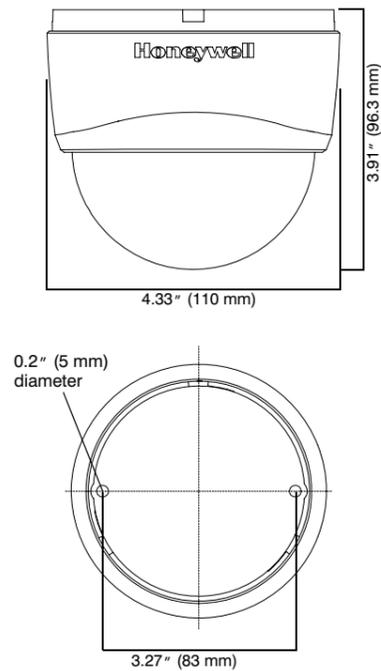4. Turn the dome gently clockwise until it locks in place.

Legend

1	Camera housing
2	Tilt adjustment bracket and thumbnuts
3	Inner liner
4	Dome cover
5	Dome tabs (x3)

Routine Maintenance

- The dome cover is an optical part. Use a soft, dry cloth to remove any fingerprints or dust.
- Clean the camera housing with a soft, dry cloth. For more stubborn stains, use a cloth dampened with a small quantity of neutral detergent, then wipe dry.

Caution Do not use volatile solvents such as alcohol, benzene or thinners to avoid damaging the surface finish.

Cable Guidelines

Maximum Power Supply Cable Length (feet/meters) Cameras With AC/DC Power Supplies

		Wire gauge			
Total load	Power supply	24 AWG	22 AWG	18 AWG	16 AWG
High Res	12 VDC	89/27	148/45	374/114	597/182
	15 VDC	348/106	561/171	1427/435	2273/693
	24 VAC	991/302	1601/488	4061/1238	6462/1970
Std Res	12 VDC	236/72	384/117	977/298	1555/474
	15 VDC	420/128	679/207	1729/527	2752/839
	24 VAC	1155/352	1866/569	4736/1444	7541/2299

Caution Calculations are based on an unregulated linear power supply, which would be the worst case. Using a regulated or switching power supply can increase the cable distance. Honeywell recommends using a **CSA Certified/UL listed Class 2** power adapter to ensure compliance with electrical safety standards.

Maximum Video Coaxial Cable Length (feet/meters)

Cable type	RG-59	RG-6	RG-11
Wire gauge	23 AWG*	18 AWG*	14 AWG*
Maximum length (feet/meters)	750/229	1500/457	2000/610

* Copper clad steel core, 95% braided shield

Product Dimensions

Figure 6   Camera Dimensions

3.91″ (96.3 mm)

4.33″ (110 mm)

0.2″ (5 mm) diameter

3.27″ (83 mm)

Warranty and Service

Subject to the terms and conditions listed on the Product warranty, during the warranty period Honeywell will repair or replace, at its sole option, free of charge, any defective product returned prepaid.

In the event you have a problem with any Honeywell product, please call Customer Service for assistance or to request a **Return Merchandise Authorization (RMA)** number. Call 1.800.796.CCTV (North America only).

Be sure to have the model number, serial number, and the nature of the problem available for the technical service representative.

Prior authorization **must** be obtained for all returns, exchanges, or credits. **Items shipped to Honeywell without a clearly identified Return Merchandise Authorization (RMA) number may be refused**.

Europe and United Kingdom

For warranty information please contact your Honeywell dealer.

Specifications

Video Signal Specifications

Video Standard:	NTSC, PAL	NTSC, PAL
	High Res	**Standard Res**
Scanning System:	525 lines, 2:1 interlace (NTSC)	
	625 lines, 2:1 interlace (PAL)	
Image Sensor:	1/3" Interline Transfer CCD	
Number of Pixels (H x V):	768 x 494 (NTSC)	510 x 492 (NTSC)
	752 x 582 (PAL)	500 x 582 (PAL)
Minimum Illumination:	0.6 lux @ F1.3	0.2 lux @ F1.3
	(AGC on, 50 IRE)	
Horizontal Resolution:	540 TVL	350 TVL
Video Output:	1.0 Vp-p @ 75 Ohms	
S/N Ratio:	50 dB (AGC Off)	
Sync System:	12 VDC: Internal, 24 VAC: Line lock	
Auto Gain Control:	On/off, switchable	
BLC:	On/Off, switchable	
AI/AES Selection:	On/off, switchable	
Automatic Electronic Shutter:	1/60 - 1/100,000 sec (NTSC)	
	1/50 - 1/100,000 sec (PAL)	
Lens Type:	2.8 mm to 10 mm Vari-focal Auto Iris, F1.3	
Lens Iris Control:	Direct Drive (DC) AI	
Angle of View (Lens):		
Wide	129.0° (D), 100.2° (H), 73.3° (V)	
Tele	34.3° (D), 27.4 (H), 20.5° (V)	
Focal Length:	f = 2.8 mm to 10 mm	
White Balance:	ATW	
Gamma:	0.45	

Electrical Specifications

Input Voltage:	12 VDC/24 VAC
Input Voltage Range:	11 to 16 VDC
	17 to 28 VAC
Power Consumption:	3.5 W (max)

Mechanical

Dimensions (W x H):	4.33″ x 3.91″ (110 mm x 96.3 mm)
Weight:	
Net	.66 lb (.3 Kg)
Shipping	1.32 lb (.6 Kg)
Construction:	Housing and dome: Polycarbonate

Environmental

Temperature:	
Operating	14°F to 122°F (-10°C to 50°C)
Storage	-4°F to 140°F (-20°C to 60°C)
Relative Humidity:	0% to 90%, non-condensing

Regulatory

Emissions:	FCC, CE (EN55022)
Immunity:	CE (EN50130-4)
Safety:	UL2044[a], EU: 73/23/EEC LVD

[a] Applies only to HD3VC4SHR and HD3VC4SA models.

Contact Information

Honeywell